

May 2009 Climate Summary for Southwest Lower Michigan

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Overview

May 2009 was a relatively quiet month for Southwest Lower Michigan. The absence of severe weather was probably the biggest highlight of the month. There were a few rounds of thunderstorms; however no thunderstorms were reported to have caused severe weather. Temperatures for the month averaged around normal to slightly below normal. Precipitation ended up below normal for a good portion of the area, while above normal rainfall was noted toward the Lansing and Jackson areas. It was a rather windy month as almost a third of the 31 days recorded wind gusts at or above 30 mph.

The upper air pattern for the month was characterized by a split flow in the jet stream, where the northern branch was up in Canada, and the southern branch was south of the state. This pattern kept a good portion of the rainfall north and south of the area. Occasionally, one or both of the branches would approach the area, which brought the limited amount of rainfall to the area. This pattern kept the summer-like weather south of Michigan, and would occasionally bring a cool Canadian air mass into the area. Temperatures only reached 80 degrees two times at Lansing and Grand Rapids, and zero times at Muskegon.

High pressure dominated during the early part of the month, with systems passing north and south of the area. This allowed rivers to recover somewhat after residual flooding from heavy rains at the end of April. Daytime temperatures were rather mild with temperatures in the 60s and 70s for highs. Nighttime temperatures were somewhat cool in the 30s to lower 40s.

Temperatures recovered by the 13th as the high pressure ridge moved east of the area. The next significant rain maker for the area came late on the 13th and early on the 14th when warm and moist air moving north from the Gulf of Mexico met with a front moving southeast from Canada. A widespread round of showers and storms moved across the area, with locally heavy rains and wind gusts of 40 to 50 mph. Another fairly potent system moved through late on the 15th and early on the 16th. Most of the area saw less than a tenth of an inch of rainfall from this system. Areas toward Lansing and Jackson saw between one half of an inch to one and a half inches of rainfall.

The period of the 17th through the 25th then was dominated by high pressure. Another widespread frost and freeze event ensued on the mornings of the 17th and 18th. This was quickly followed by the warmest temperatures of the month on the 20th and 21st.

A system moved into the area from the southwest late in the day on the 26th and on the 27th. This brought another batch of showers and storms to the area. Some heavy rainfall occurred during this timeframe, with a narrow band of 2 to 4 inches of rain occurring from Pottsville to Lansing on the afternoon of the 27th. Most other locations saw one to 2 inches of rain over the entire period.

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TABLE 1. Reported temperature, precipitation and snowfall amounts for May 2009 at selected climate stations in Southwest Lower Michigan. Normals are computed from 30-year averages from 1971-2000.

Location		Temperature (degrees F)	Precipitation (inches)	Snowfall (inches)
Grand Rapids	<i>Reported</i>	58.3	2.65	0.0
	<i>Normal</i>	58.1	3.35	Trace
	<i>Departure</i>	+0.2	-0.70	Trace
Lansing	<i>Reported</i>	57.2	4.08	0.0
	<i>Normal</i>	57.1	2.71	Trace
	<i>Departure</i>	+0.1	+1.37	Trace
Muskegon	<i>Reported</i>	56.0	1.65	0.0
	<i>Normal</i>	56.1	2.95	Trace
	<i>Departure</i>	-0.1	-1.30	Trace

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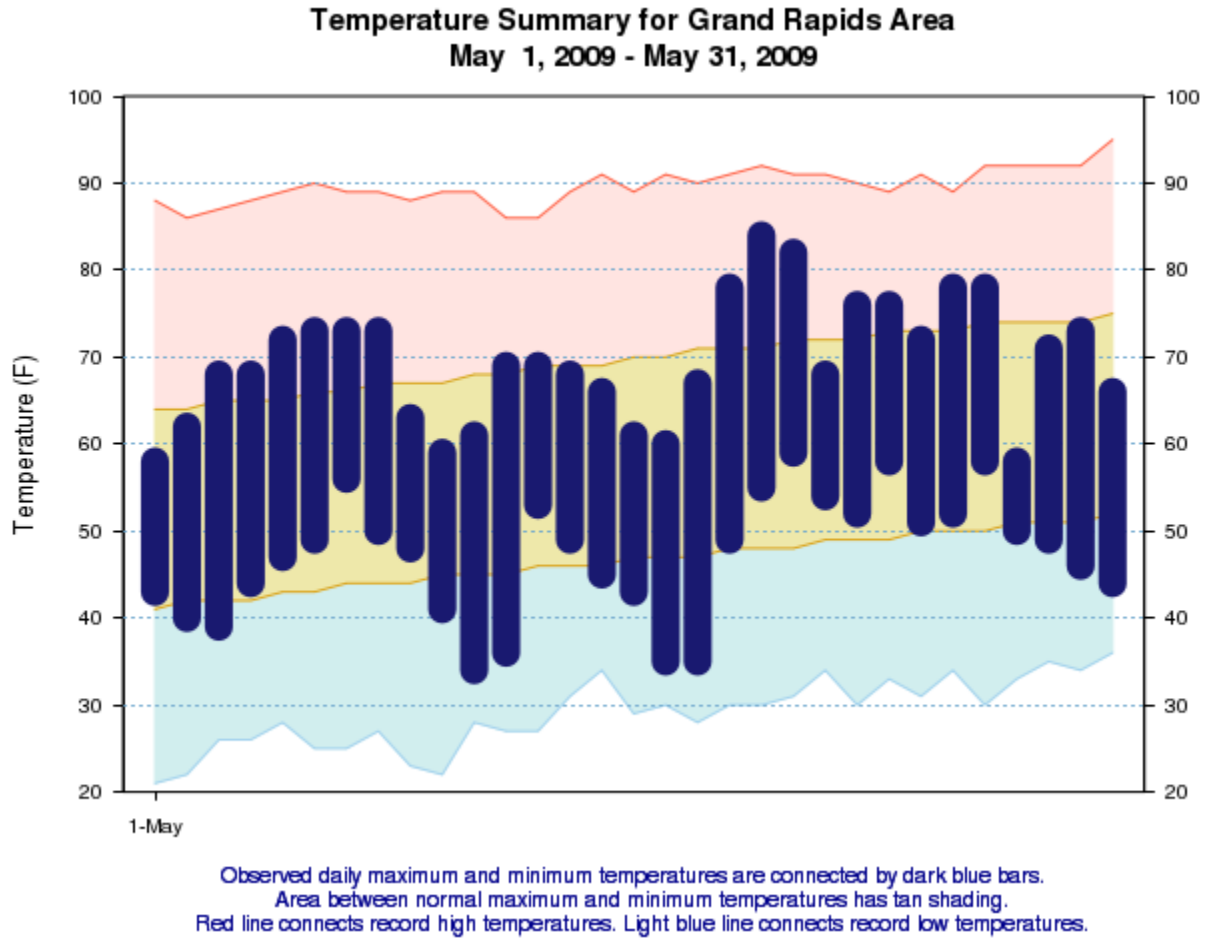


FIG. 1. Observed temperatures at the Grand Rapids International Airport. Dark blue bars are the temperature range for each day. The green strip indicates the normal range of temperatures. Record high and low temperatures are indicated at the top of the pink area and the bottom of the blue area, respectively. Normals computed as in Table 1.

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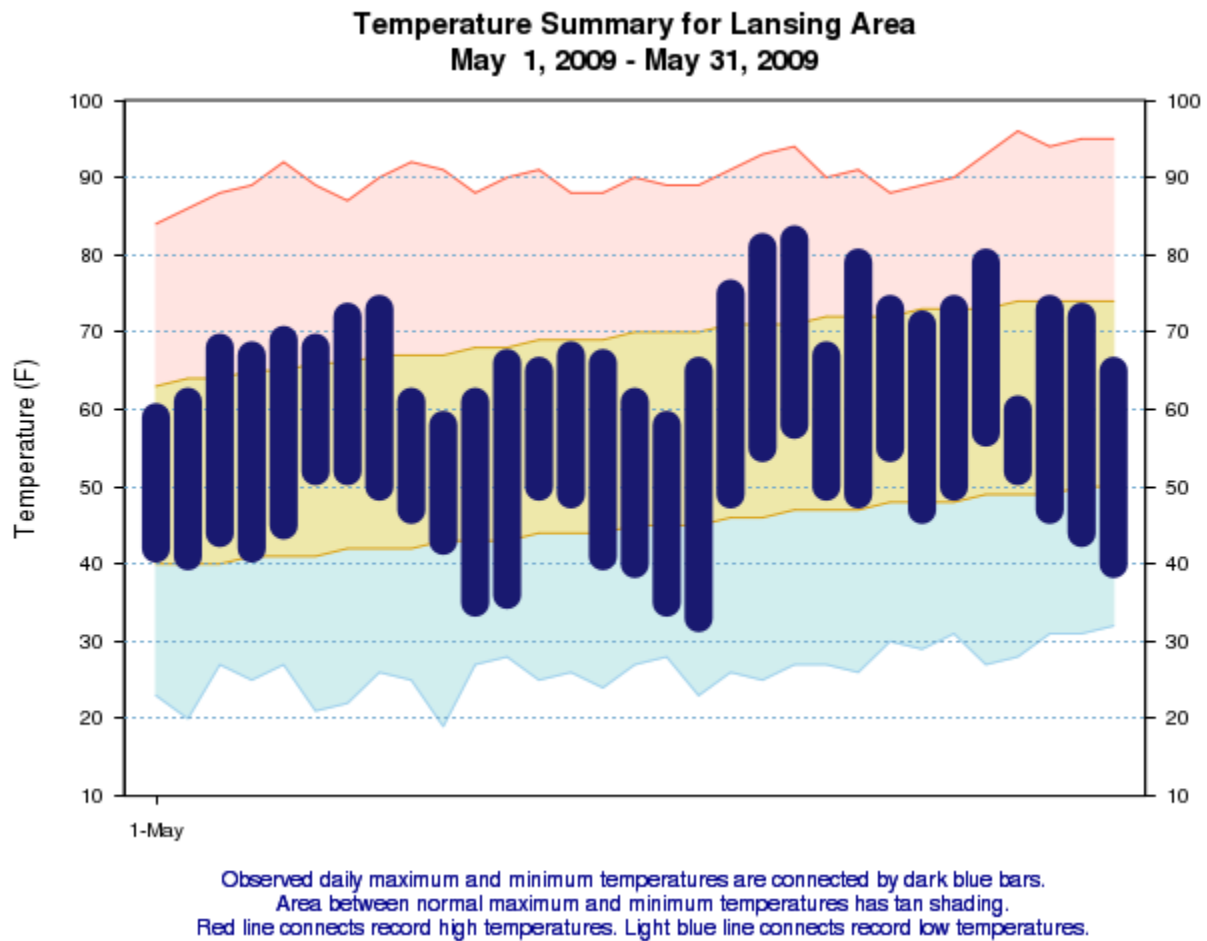


FIG. 2. As in Fig. 1, except for the Capital City Airport.

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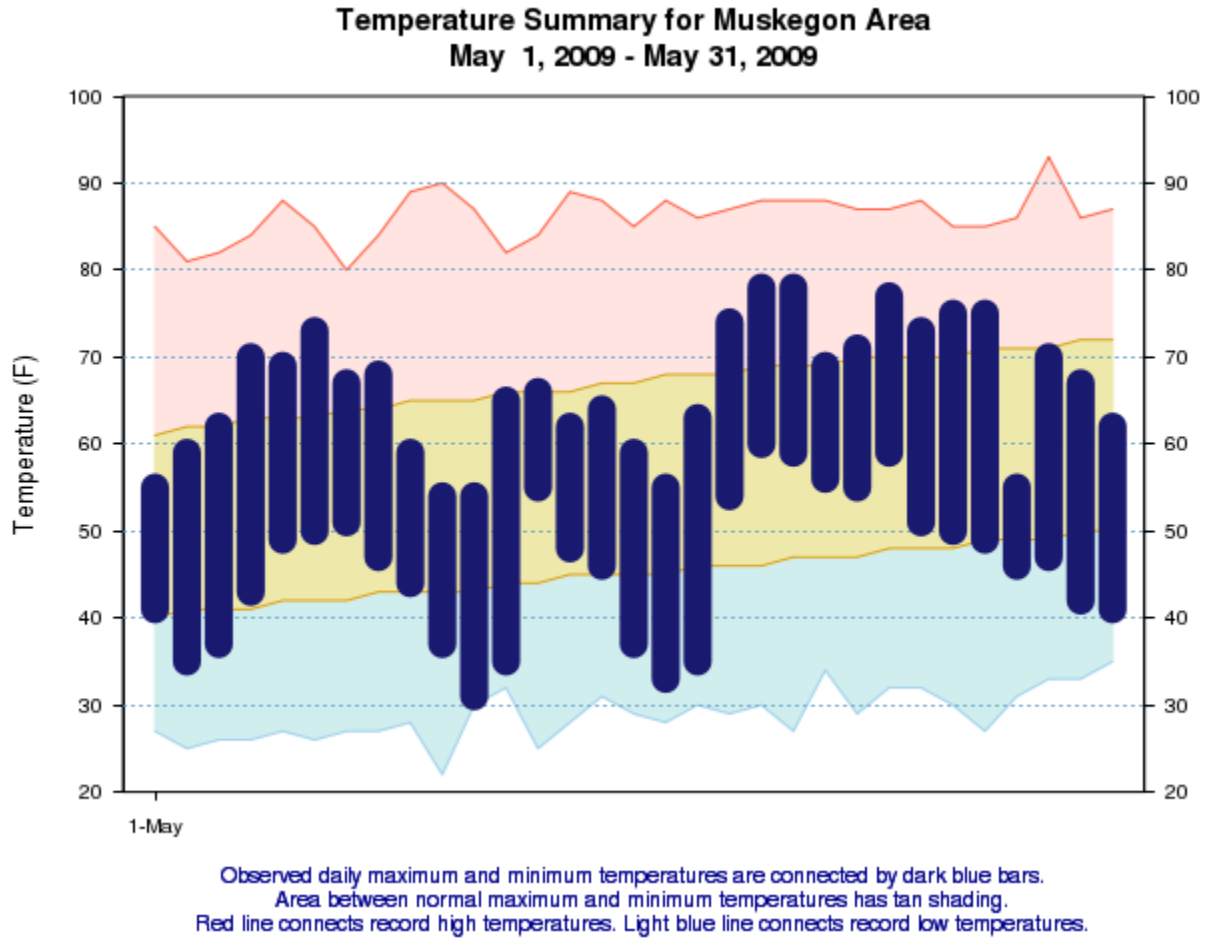
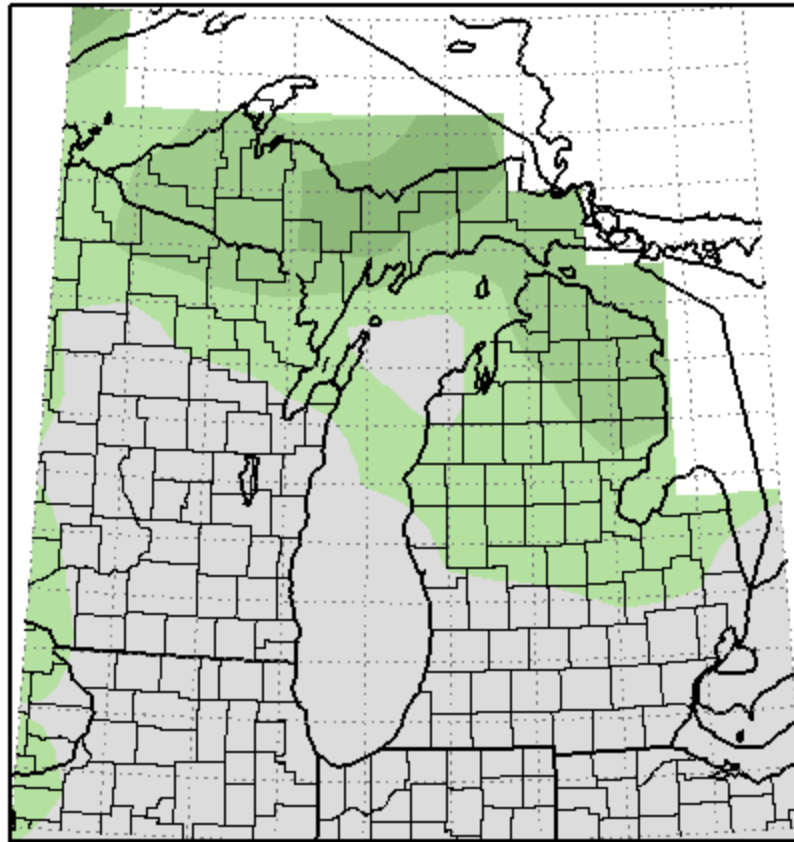


FIG. 3. As in Fig. 1, except for the Muskegon County Airport.

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Average Temperature Departure from Mean in Degrees F
May 1, 2009 to May 31, 2009



NOAA Midwestern Regional Climate Center
Illinois State Water Survey
Champaign, Illinois

FIG. 4. Average temperature departure (degrees F) for March of 2009.

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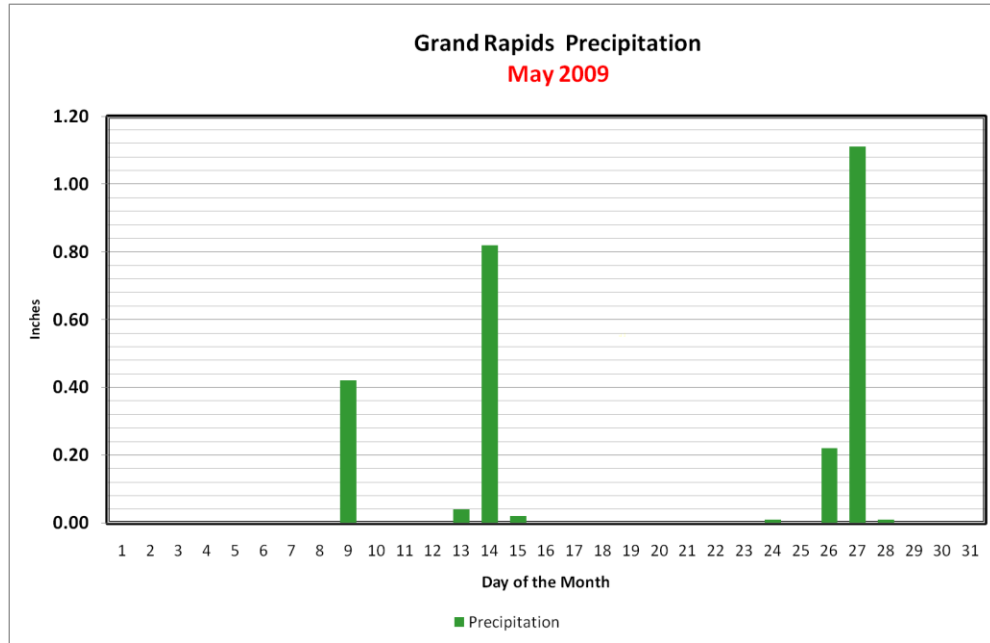


FIG. 5. Daily precipitation in inches for February of 2009 at the Grand Rapids Gerald R Ford International Airport.

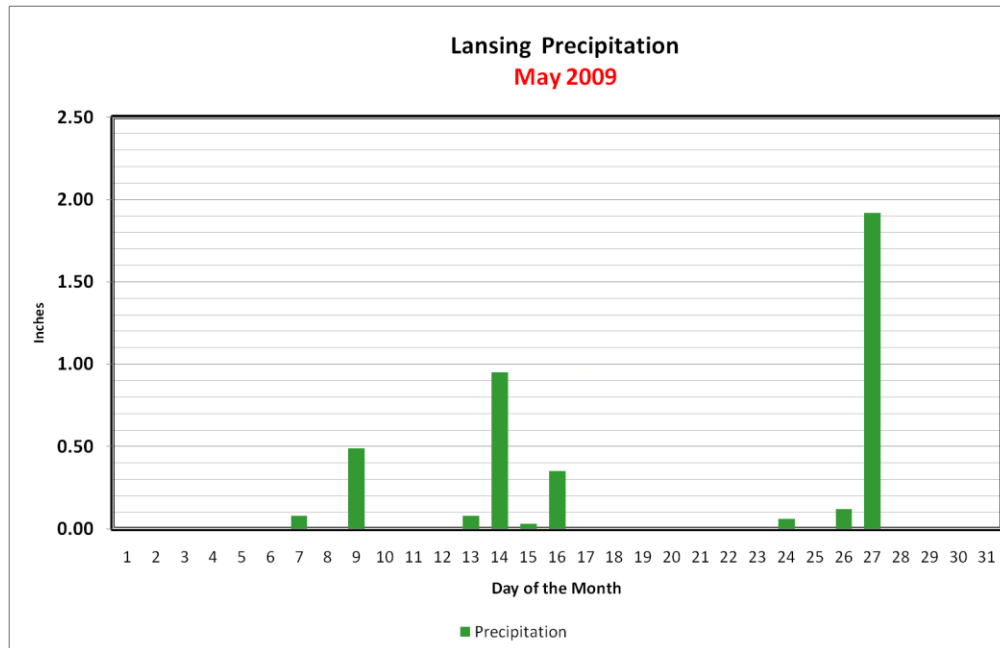


FIG.6. As in Fig. 5, except for the Lansing Capital City Airport.

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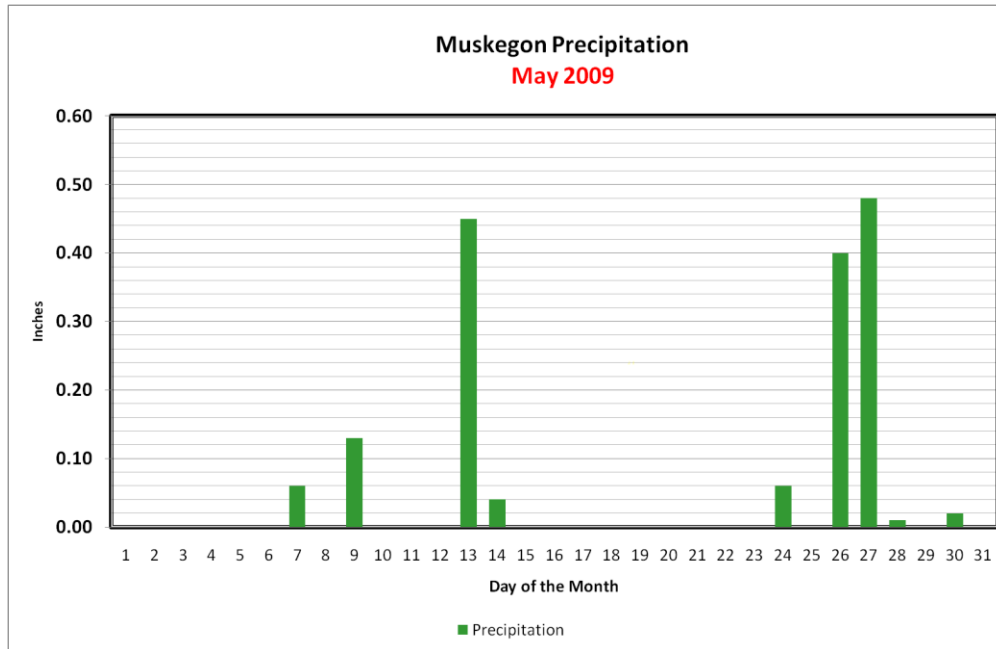
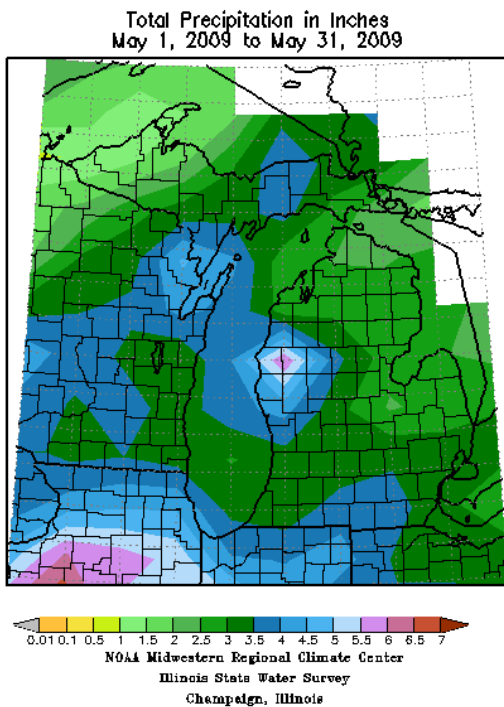
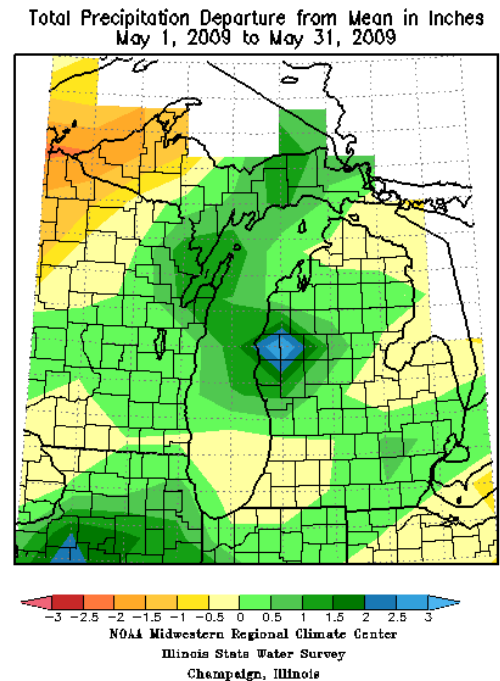


FIG. 7. As in Fig. 5, except for the Muskegon County Airport.



(a) Inches of Total Precipitation



(b) Total Precipitation Departure from Mean

FIG. 8. (a) Total precipitation in inches for February 2009, and (b) Total precipitation departure from the mean.

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Highlights of the month

1st – 8th

High pressure dominated the weather through the period. Only a trace of rain was recorded as a weak front tried to move through the area.

9th

The first significant rain of the month came in during the early morning hours on Saturday the 9th as a cold front moved across the area from the Northwest. A few thunderstorms occurred, with only locally heavy downpours. No severe weather was reported.

10th - 12th

High pressure dominated once again with cold air mass in place behind the cold front that passed on the 9th. Many locations saw a frost or freeze the mornings of the 11th and 12th.

13th - 16th

A couple of systems moved through the area, bringing heavy rains to the area. The entire area was impacted late on the 13th and early on the 14th. Areas toward Lansing and Jackson experienced the rainfall on the 15th and 16th.

17th - 18th

Another frost and freeze event occurred across the area on the mornings of the 17th and 18th.

19th - 25th

High pressure moved east of the area. Warmest air mass of the month occurred during this period along with dry conditions. The only two 80 degree temperatures at Lansing and Grand Rapids were recorded on the 20th and 21st. A couple of weak and mostly dry cold fronts moved through the area on the 21st and again on the 23rd.

26th - 28th

A fairly wet and potent system moved into the area from the southwest. This system brought up to an inch of rain to most locations, with a narrow strip of 2 to 4 inches of rainfall occurring from Potterville to Lansing.

29th - 31th

A series of weak fronts moved through the area each day. The first two fronts brought little to no rain and the front on the 31st brought a few scattered showers and thunderstorms. Cooler air filtered in across the area behind the fronts, resulting in slightly cooler than normal temperatures.